NNSA 2011 LDRD Symposium:
Innovation Advancing Nuclear Security

June 9, 2011
UC Washington Center—1608 Rhode Island Avenue, NW—Washington, D.C.
Unclassified Symposium

Agenda

7:30–8:30	**Registration and breakfast**
8:30–8:35	**Welcome** *Jamileh Mogin, Director, Office of Institutional Programs, NNSA*
8:35–9:00	**NNSA LDRD Overview** *The Honorable Donald L. Cook, NNSA Deputy Administrator for Defense Programs* *and* *The Honorable Anne Harrington, NNSA Deputy Administrator for Defense Nuclear Nonproliferation*
9:00–9:30	**Keynote Presentation** *The Honorable Daniel B. Poneman, Deputy Secretary of Energy*
9:30–10:00	**Keynote Presentation** *The Honorable William C. Ostendorff, Commissioner, U.S. Nuclear Regulatory Commission*
10:00–10:20	*Break* *During the break, a press announcement of the awarding of the DOE/NNSA Nuclear Science and Security Consortium will be held.*
10:20–10:50	**Keynote Presentation** *The Honorable Philip E. Coyle III, Associate Director for National Security & International Affairs, Office of Science & Technology Policy*
10:50–11:20	**LLNL Program Overview** *Dr. Bruce T. Goodwin, Principal Associate Director, Weapons Complex Integration Program*
11:20–11:50	**LANL Program Overview** *Dr. Mark B. Chadwick, Division Leader, X-Computational Physics*
11:50–12:20	**Sandia Program Overview** *Dr. J. Stephen Rottler, Chief Technology Officer and Vice President of Science and Technology*

12:20–2:00	*Lunch and Poster Presentations*
2:00–2:30	**Defense Experimentation and Nuclear Science Initiatives at the Nevada National Security Site** *Mr. James L. Holt, Director of Defense Experimentation and Stockpile Stewardship, National Security Technologies*
2:30–2:50	**The Microphysics of Burning, Hot Dense Radiative Plasmas** *Dr. Frank Graziani, Weapons Complex Integration Program, Lawrence Livermore National Laboratory*
2:50–3:10	**Supernovae: Nature's High-Energy, High-Density Laboratories** *Dr. Christopher L. Fryer, Theoretical Astrophysics Group, Los Alamos National Laboratory*
3:10–4:00	*Break and Poster Session*
4:00–4:20	**Surface-Mounted Neutron Generator** *Dr. Juan M. Elizondo-Decanini, Applied Science and Technology Maturation Department, Sandia National Laboratories*
4:20–5:00	**Panel Discussion: Research and development Challenges for Nuclear Security** ***Moderator**: Dr. Vic Reis, Senior Advisor, Office of the Secretary, Department of Energy* ***Panelists**: Steven Aoki, Deputy Under Secretary of Energy for Counterterrorism, DOE/NNSA;* *Tomás Díaz de la Rubia, Deputy Director for Science and Technology, Lawrence Livermore National Laboratory;* *Stephen Rottler, Chief Technology Officer and Vice President of Science and Technology, Sandia National Laboratory;* *Terry Wallace, Principal Associate Director for Science, Technology, and Engineering, Los Alamos National Laboratory*
5:00	**Awards for Poster Excellence**

Poster Presentations

Presenter	Title	Lab
Amy Lewis	Advanced High-Speed Framing Camera Development for Fast Visible Imaging Experiments	NNSS
Jack Holy	Benchtop High-Explosives Testing	Pantex
Rekha R. Rao	Computational Modeling of Nuclear Waste Reprocessing	Sandia
Jonathan Morrell	Determination of Uranium Chemistry and Processing History Using Ultrasonic Techniques	Y-12
Kim Knight	Development of Resonance Ionization Mass Spectrometry for Nuclear Forensics Applications and Rapid Response	LLNL
Larry K. Warne	Field and Charge Penetration by Lightning Burnthrough	Sandia
Dawn Shaughnessy	Fundamental Chemical Behavior of Superheavy Elements through Applications of Online Isotope Production and Automated Chemical Systems	LLNL
Tzanio Kolev	High-Order Finite Elements Improve Lagrangian Hydrodynamics Simulations	LLNL
Gregg Schaaff	Improving Uranium Forensic Analysis	Y-12
Lin Yin	Laser–Plasma Interaction: Science Underpinning Fusion Energy and National Security Science	LANL
Mike Steinkamp	Leveraging The National Ignition Facility (NIF) To Better Understand Turbulence in Support of U.S. Nuclear Stockpile Stewardship	LANL
Jave Kane	LIFE Target Chamber Dynamics	LLNL
Darcie Dennis-Koller	Material Response to Shockwaves	LANL
Jeffrey A. Greathouse	New Coatings for MEMS-Based Sensors for Enhanced Surveillance	Sandia
Dan Bowen and Eric Eastwood	Nano Technology Research and Development at the Kansas City Plant	Kansas City

Presenter	Title	Lab
Ed Daykin	Photonic Doppler Velocimetry Multiplexing Techniques: Evaluation of Photonic Technologies	NNSS
Omar Hurricane	Plasma Vortices in a High-Energy-Density Kelvin-Helmholtz Experiment	LLNL
Michael Fluss	Radiation-Tolerant Materials	LLNL
Dane V. Morgan	Real-time Studies of Shocked Polycrystalline Materials with Single-Pulse X-ray Diffraction	NNSS
Jeffrey Mercier	Remote Sensing of Green House Gases by Means of Gas Filter Correlation	Sandia
Christopher W. San Marchi	The Role of Hydrogen Isotopes in Deformation and Fracture of Aluminum Alloys	Sandia
Albert Migliori	The Seaborg Institute: Sustaining Excellence in Actinide Science	LANL
William D. Turley	Study of Window Effects for Shock Wave Temperature Measurements	NNSS
Ashley Stowe et al.	Technologies for Nuclear Detection	Y-12
Richard Martin	Towards a Predictive Electronic Structure Capability for Strongly Correlated Materials	LANL
Malcolm Andrews	Turbulence By Design	LANL
Cody M. Washburn	Vapor Phase Lubrication for Advanced Surety Components	Sandia
Carter D. Hull et al.	Y-12 Nuclear Detection and Sensor Testing Center	Y-12